

## High Temperature, Superior Strength & Vibration-Resistant Bonder

### PRODUCT DESCRIPTION

Incure Epo-Weld™ 6491 (2:1) is an innovative, high temperature, two-component epoxy bonding material that offers a toughened surface with ultra-superior peel and shear strength on many substrates with bonding strength of up to 21,600 PSI between ceramics and metals. Curing starts within 4hrs, with full cure after 72hrs at room temperature. Cure times may be shortened with heat at 65°C for 1hr or 100°C for 10mins. Incure 6491 has exceptional vibration absorption capability, with high impact and abrasion resistance. Exhibits excellent dimensional stability, complies to 2011/65/EU RoHS regulations.

### UNCURED PROPERTIES

Chemical Type	Epoxy, 100% Solids, No Solvents			
Appearance	Two-Part Component, Black Glossy			
Density, g/ml	1.17	Refractive Index	N.A.	@20°C
Flash Point, °C	>150	Toxicity	Very Low (Refer to MSDS)	
Viscosity, cP (rpm)	20	16,000 - 30,000	Spindle	7
Other viscosities are available upon request. If the viscosity range requested is not our standard offering, this product may be produced with a small lab fee.			ASTM D2556	
Email us at: support@uv-incure.com or your nearest local distributor for more information.				

<sup>1</sup> Viscosity (cP) taken at 25°C - Call to enquiry for other viscosities.

### CURED PROPERTIES

Shore Hardness, Durometer	D71 to D81	ASTM 2240
Linear Shrinkage / Expansion (-ve)	-0.05%	ASTM 570
Water Absorption at 24hrs	0.24%	<sup>2</sup> ISTM D2566
Tensile (PSI) <small>* PC-PC / SS-SS / S-S / AL-AL * PC Substrate Failure</small>	PC-PC / SS-SS	1,600* / 14,300*
	S-S / AL-AL	21,600* / 13,300*
Surface After Full Cure	Sleek	<sup>2</sup> ISTM D189
Elongation at Break	26%	ASTM 638
Thermal Range (Brittleness / Degrades) °C	-55 to 155	<sup>2</sup> ISTM D366
Young's Modulus of Elasticity, MPa (PSI)	948 (137,500)	<sup>3</sup> ASTM 638
Average Linear CTE, ppm/°C	188	<sup>2</sup> ISTM D696
Thermal Conductivity, W/mK	0.3	<sup>2</sup> ISTM D696
Dielectric Constant, 100Hz	4.10	<sup>2</sup> ISTM D696
Volume Resistivity, ohm-cm	5.0E+15	<sup>2</sup> ISTM D696
Surface Resistivity, ohm	5.0E+14	<sup>2</sup> ISTM D696

<sup>2</sup> ISTM - refers to Incure Standard Test Method.

<sup>3</sup> ASTM 638 Young's Modulus test speed @5mm/min for rigid and semi-rigid materials, @50mm/min for non-rigid materials, unless otherwise specified.

### SECONDARY HEAT CURE SCHEDULE

Continuous Oven Bake	Duration
150°C (302°F)	N.A.
125°C (257°F)	5 mins
110°C (230°F)	8 mins
100°C (212°F)	10 mins
25°C (77°F)	72 hrs

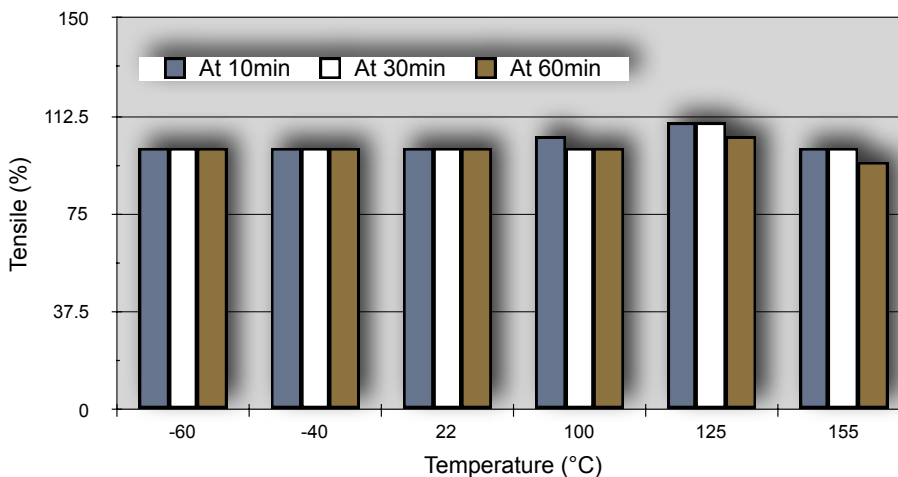
Above are recommended schedules. Request for other cure schedules may be charged at a nominal fee.

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### TENSILE STRENGTH VS TEMPERATURE



### SHELF-LIFE, STORAGE, USE AND HANDLING OF THIS PRODUCT

Shelf-Life of this unopened product is a minimum of ONE (1) year from date of manufacture. Avoid direct exposure of bottle to visible light at all times. Containers should remain covered when not in use. Product should be stored in a dark cool place of 5°C to 25°C. Transfer of product into other packages void all warranties. Users should ensure all bonding surfaces are free of grease, mold release, or any contaminants, as bonding performance will be compromised. All tests for cured bonds should be carried out at ambient temperature. For safe handling of this product, please read Material Safety Data-sheet (MSDS) prior to use. Organic solvents, such as IPA, may be used to wipe away uncured material from surfaces.

### EtO and GAMMA STERILIZATION (Not Applicable for this Product)

All Incure Medical products are formulated to subject to standard sterilization methods, such as EtO and Gamma Radiation of 25 to 50 kGrays (cumulative). Enhanced moisture and thermal resistance of this product show excellent adhesion and bonding strength after one cycle of steam auto-clave test. Depending on bond design and structure of the application, users should test specific assemblies after subjecting them to the test requirements. Please consult Incure Support Team for assistance, if your devices are subjected to more than one sterilization cycles.

### NOTE

The data contained in this document are furnished for information only. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein. INCURE will not be liable for any indirect, special, incidental or consequential loss or damage arising from this INCURE product, regardless of the legal theory asserted. INCURE recommends that each user adequately test its proposed use and application before repetitive use, using this data as a guide.